

WHAT IS CLAIMED IS:

1. A method of supplementing blood circulation in a patient comprising the steps of:

inserting a conduit into the patient's vasculature so that a distal end of the conduit resides at a first location within the vasculature;

drawing blood from the first location at subcardiac flow rates into the conduit; and

delivering the blood from the conduit to a second location within the vasculature.

2. A method of supplementing blood circulation in a patient comprising the steps of:

inserting a conduit into the patient to a first location;

directing blood from the first location at subcardiac flow rates to a second location, wherein the blood flows in reverse directions within at least a portion of the conduit.

3. A system for supplementing blood circulation in a patient, the system comprising:

a pump configured to pump blood through the patient at subcardiac flow rates, said pump having an average flow rate that, during normal operation thereof, is substantially below that of the patient's heart when healthy;

a conduit fluidly coupled to the pump and configured to direct blood from a first location within the patient's vasculature to a different location within the vasculature.

4. A system for supplementing blood circulation in a patient comprising:

a pump configured to pump blood through the patient at subcardiac flow rates, said pump having an average flow rate that, during normal operation thereof, is substantially below that of the patient's heart when healthy;

a conduit fluidly coupled to the pump and configured to direct blood between two locations within the patient's vasculature wherein the blood may travel in reverse directions within the conduit.

5. A method of off-loading a patient's ailing heart by reducing the pressure against which the patient's heart must pump, the method comprising the steps of:

inserting a single lumen conduit fluidly coupled to a pump into the patient's vasculature so that a distal end of the conduit resides at a first location within the vasculature;

directing blood from the first location at subcardiac flow rates into the conduit; and

delivering the blood to a second location within the vasculature.

6. A method of off-loading a patient's ailing heart by reducing the pressure against which the patient's heart must pump, the method comprising the steps of:

inserting a single lumen conduit into the patient to a first location;

directing blood from the first location at subcardiac flow rates to a second location, wherein the blood flows in reverse directions within at least a portion of the conduit.